

Date: Monday, 18/08/2008 10:20:30 AM
 User: Julie Lecocq

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services
 Job Number : 41262
 Estimate Number : 10007
 P.O. Number :
 This Issue : 18/08/2008 S.O. No. :
 Prsht Rev. : NC
 First Issue : / / Type : CROSSTUBES
 Previous Run : 40783
 Written By :
 Checked & Approved By : JUL 08.18
 Comment : Est Rev G Removed Bending 05-10-25 JLM
 Est Rev:H ECN 1075 08-01-10 DD
 Est Rev F 08.04.28 Added bending & mat'l EC
 verified by: DD

Drawing Name : FWD X-TUBE EXTENDED HEIGHT GEAR (-011)
 Part Number : D205596101
 Drawing Number : D205-596-101
 Project Number : N/A
 Drawing Revision : B
 Material :
 Due Date : 29/08/2008 Qty: 1 Um: Each

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy D205-594 bluefile & type labels per PPP D205-596-101 CHG002

2.0

D6005180

Crosstube Material



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Crosstube Material

Batch: B 38345

D M 7-8-18

3.0

BENDING

BENDING MACHINE - SKIDTUBES



Comment: BENDING MACHINE

Bend as per Dwg D2889 using CNC bender program

1 7-8-19

4.0

CROSSTUBES

CROSSTUBES RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Mark 31.53" for cutting from tangential line in the straight section from D2889 as per Dwg wall template.

Identify off-cuts with batch number & part number and bring them to cnc lathe

M 7-7-19

5.0

QC15

DIMENSIONAL CHECK OF X-TUBES



Comment: DIMENSIONAL CHECK OF X-TUBES

S 08/08/19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 18/08/2008 10:20:30 AM
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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD X-TUBE EXTENDED HEIGHT GEAR (-011)

Job Number: 41262

Part Number: D205596101

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

CROSSTUBES

CROSSTUBES RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Cut as per Dwg D205-596-101

M 8-8-19

2-Debur & Inspect for surface damage. Polish cut surface. Scribe part # and end of tube.

Batch # on one

AWM
8-8-20

7.0

QC15

DIMENSIONAL CHECK OF X-TUBES



Comment: DIMENSIONAL CHECK OF X-TUBES

5 08/08/01 @

8.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat per QSI 005 4.1

AWM 8-8-20

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

5 08/08/01 @

10.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

Prime inside and outside with Immron per QSI 005 4.2

M 08 08 26

(1)

11.0

QC14

INSPECT SPRAY PAINT



Comment: Inspect Spray Paint

85 08-08-27

12.0

D3595063450

RUBBER CUSHION



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

RUBBER CUSHION

batch 38500

M 08 08 27

13.0

MS2192025

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Clamp(per MIL-DTL-8783C)

batch 108974

M 08 08 27

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 18/08/2008 10:20:30 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD X-TUBE EXTENDED HEIGHT GEAR (-011)

Job Number: 41262

Part Number: D205596101

Job Number:



Seq. #:

Machine Or Operation:

Description :

14.0

D28931

2.75 Support



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Support

Pick:

Qty Part number Description Batch

2 D2893-1 Support

40781

m/

08 08 27

15.0

CROSSTUBES

CROSSTUBES RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe

m/

2- Apply magnobond 6398 as per dwg D205-596-101.

Magnobond 6398 Batch: 107621

4:20 pm

EXP: 08 2008 time: 4:20 pm

08 08 27 (1)

3 - install supports and clamps as per Dwg D205-596-101. Torque clamps to 80-100 in lb. as per dwg

m/ 08 08 28 (1)

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08 08 28 (1)

17.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

08 08 28 (1)

18.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D205-596-101

Location:

08 08 28 (1)

19.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08 08 29

Job Completion



08 08 29

B41262 D205-596-101

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

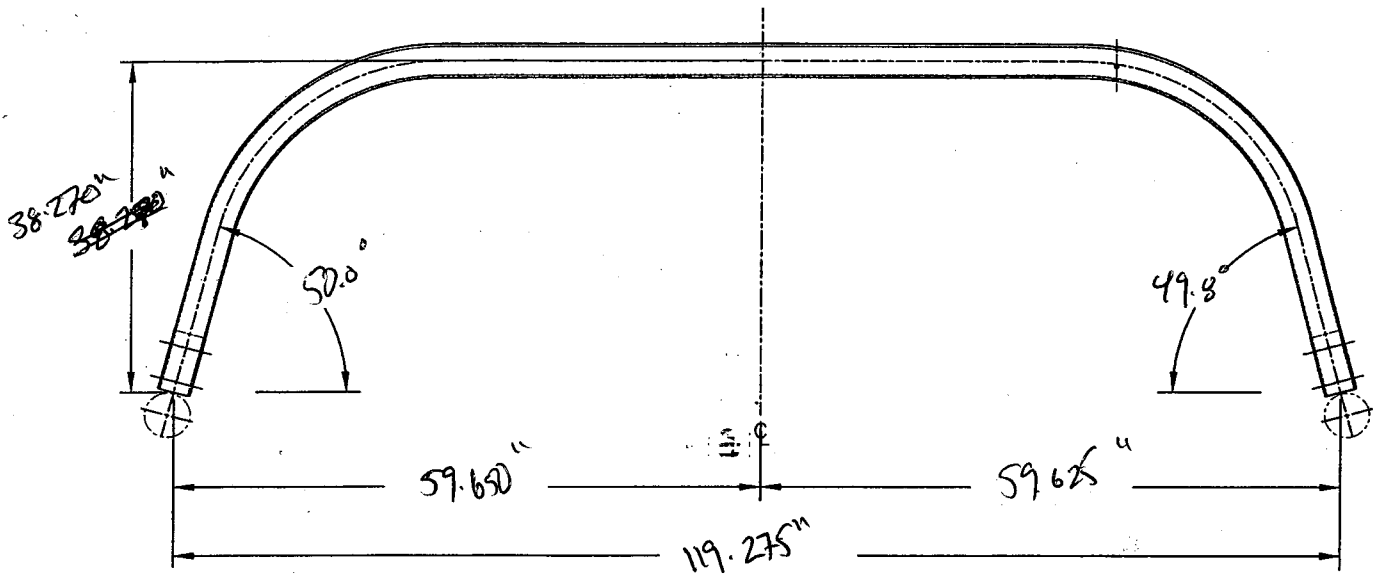
QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	41262
Description: Crosstube High-High Fwd		Part Number:	D205-596-101
Inspection Dwg: D205-596-101 Rev: B		Page 1 of 1	

Required Dimension	Min	Max
Height	38.2	38.4
1/2 Span	59.5	59.7
Angle	49	52
Total Span	119.0	119.4



Comments

QC15 Inspection	08/08/13
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	08.04.21	Dwg Rev updated	KJ/JM	

PARTS LIST:

Qty	Part Number	Description
X	D205-596-101	CROSSTUBE ASSEMBLY, HI-HI FWD
1	D6005-180	CROSSTUBE
2	D2893-1	SUPPORT
4	D3595-063-450	RUBBER CUSHION
4	MS21920-25	CLAMP
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURE FROM D6005-180
FINISHED LENGTH = 149.60 ± 0.02
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART 005 4.2
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH
VIBRATING STYLUS
- 7) WEIGHT: 44 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE
- 9) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO
BENDING IS 6% BASED ON O.D.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) APPLY A 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT
WILL BE IN CONTACT WITH THE CROSSTUBE. LET CURE FOR 12 HOURS AFTER INSTALLATION
AND PRIOR TO PACKAGING.
- 12) INSTALL MS21920-25 CLAMPS WITH D3595-063-450 RUBBER CUSHIONS TO SECURE D2893-1
SUPPORT ON THE TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE
CROSSTUBE SUPPORT.
- 13) TORQUE CLAMPS 80 TO 100 IN-LB

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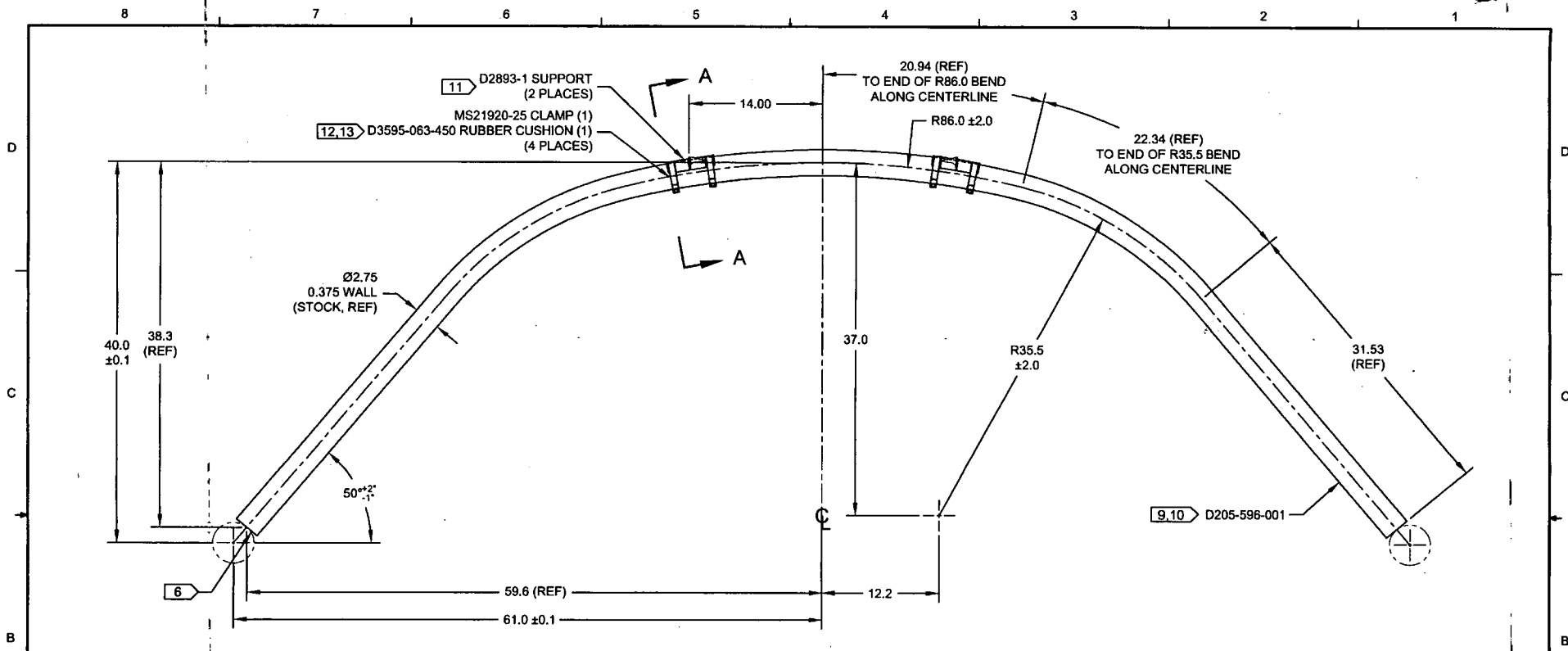
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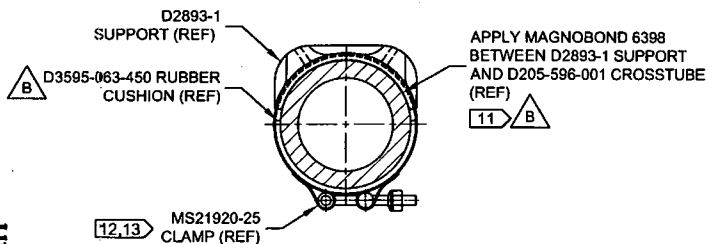
WORK ORDER

NO. 41262

B	SUPPORT NOW MAGNOBONDED; REMOVE D2856-600-851 ABRASION STRIP; UPDATED NOTES; ADDED D3595-063-450 CUSHION; MS21920-25 WAS MS21920-24	MB	07.12.03
A	NEW ISSUE	DS	02.05.27
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>[Signature]</i>	DART AEROSPACE LTD	
DRAWN	<i>[Signature]</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D205-596-101	SHEET 1 OF 2
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	CROSSTUBE ASSEMBLY, HI-HI FWD	NTS
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D205-596-101 CROSSTUBE ASSEMBLY, HI-HI FWD



SECTION A-A
SCALE 2:5

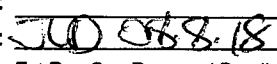
DESIGN	4	DART AEROSPACE LTD	
DRAWN	1	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. B
MFG. APPR.	2	D205-596-101	SHEET 2 OF 2
APPROVED	11	TITLE	SCALE
DE APPR.	11	CROSSTUBE ASSEMBLY, HI-HI FWD	1:10
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WORK ORDER
NO. 11100

35

Date: Monday, 18/08/2008 10:20:30 AM
User: Julie Lecocq

Process Sheet

Customer :	CU-DAR001 Dart Helicopters Services	Drawing Name :	FWD X-TUBE EXTENDED HEIGHT GEAR (-011)
Job Number :	41262		
Estimate Number :	10007		
P.O. Number :		Part Number :	D205596101
This Issue :	18/08/2008	S.O. No. :	
Prsht Rev. :	NC	Drawing Number :	D205-596-101
First Issue :	/ /	Project Number :	N/A
Previous Run :	40783	Drawing Revision :	B
	Type :	Material :	
	CROSSTUBES	Due Date :	29/08/2008
Written By :		Qty:	1 Um: Each
Checked & Approved By :			
Comment :	Est Rev G Removed Bending 05-10-25 JLM Est Rev:H ECN 1075 08-01-10 DD Est Rev F 08.04.28 Added bending & mat'l EC verified by: DD		

Additional Product

REFERENCE ONLY

Job Number:



Seq. #:

Machine Or Operation:

Description :

1.0

DC

DOCUMENT CONTROL



JLD-8-8-26



Comment: DOCUMENT CONTROL

Photocopy D205-594 bluefile & type labels per PPP D205-596-101 CHG002

2.0

D6005180

Crosstube Material



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Crosstube Material

Batch: _____

3.0

BENDING

BENDING MACHINE - SKIDTUBES



Comment: BENDING MACHINE

Bend as per Dwg D2889 using CNC bender program

4.0

CROSSTUBES

CROSSTUBES RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Mark 31.53" for cutting from tangential line in the straight section from D2889 as per Dwg wall template.

Identify off-cuts with batch number & part number and bring them to cnc lathe

5.0

QC15

DIMENSIONAL CHECK OF X-TUBES

LIBRARY WITH JLD 08.11.08

LIBRARY CHECK OF X-TUBES

